

TECHNICAL REPORT

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Plastics pipes and fittings — Definitions of types of test

Tubes et raccords en matières plastiques — Définitions des types d'essai



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Foreword

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The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

In exceptional circumstances, when a technical committee has collected data of a different kind from that which is normally published as an International Standard ("state of the art", for example), it may decide by a simple majority vote of its participating members to publish a Technical Report. A Technical Report is entirely informative in nature and does not have to be reviewed until the data it provides are considered to be no longer valid or useful.

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ISO/TR 16913 was prepared by Technical Committee ISO/TC 138, *Plastics pipes, fittings and valves for the transport of fluids*, Subcommittee SC 5, *General properties of pipes, fittings and valves of plastic materials and their accessories — Test methods and basic specifications*.

Introduction

The need to define the test categories to which plastics pipes and fittings must be submitted has been felt for a long time.

At the beginning of the 80's, an Ad Hoc group was set up in order to examine this matter. At the time, it comprised Mr. Birkenfeld and Mr. De Putter from the Netherlands as well as Mr Verdin from France. The draft Guide 138-5 is the result of their work. It was put into circulation, with a view to voting and obtaining comments, from July 8, 1988 up until October 10, 1988 and was properly ratified. At this period in time, the SC 5 subcommittee was still the WG 5 Working Group, subjected to the arbitrary nature of the TC 138 Technical Committee.

This document contains two test definitions:

- product quality control test;
- fitness for use or type test;

which is decidedly insufficient and can lead to confusion.

Nevertheless, the authors were satisfied with their work and considered that there was nothing more to be done.

The CEN also showed interest in the matter and, under the convenorship of Mr Birkenfeld, drew up a very thorough text, perhaps too thorough, as it was complex and not very easy to manipulate, except, probably, for the initiated.

As, when they deliver comments, the delegates of the European countries refer to test categories which figure in the batch of definitions of Part 7 "Assessment of conformity" of their system standards, the ISO/TC 138/SC 5 Secretariat considers it appropriate to communicate them to the ISO delegates in the form of a Technical Report and by way of information.

Plastics pipes and fittings — Definitions of types of test

1 Scope

The purpose of this Technical Report is to supply a list of definitions, adopted at the CEN, for qualifying the different test categories which make it possible to pass judgment at different stages, from the production to the delivery of the products, on the properties of plastic pipes and fittings, as well as the corresponding abbreviations.

2 Definitions

The definitions of the test categories, as well as of other additional ones, are as follows:

2.1

type testing (TT)

tests performed to prove that the material, component, joint or assembly is capable of conforming to the requirements given in the System Standard

2.2

preliminary type testing (PTT)

type testing carried out by, or on behalf of, the manufacturer

2.3

initial type testing (ITT)

type testing carried out by, or on behalf of, a certification body for certification purposes

2.4

batch release test (BRT)

a test performed by the manufacturer on a batch of components, which has to be satisfactorily completed before the batch can be released

2.5

process verification test (PVT)

a test performed by the manufacturer on materials, components, joints or assemblies at specific intervals to confirm that the process continues to be capable of producing components conforming to the requirements given in the System Standard

NOTE Such tests are not required to release batches of components and are carried out as a measure of process control.

2.6

audit test (AT)

A test performed by, or on behalf of, a certification body to confirm that the material, component, joint or assembly continues to conform to the requirements given in the System Standard and to provide information to assess the effectiveness of the quality system.

2.7

indirect testing (IT)

a test performed by the manufacturer different from that specified for that particular characteristic having verified its correlation with the specified test

2.8

witness testing (WT)

testing accepted by the certification body for initial type testing and/or audit testing, which is carried out by, or on behalf of, the manufacturer and supervised by a representative of the certification body, qualified in testing

2.9

material or compound batch

a clearly identifiable quantity of a particular material or compound

2.10

material

a defined type of polymer or additive or constituent thereof

2.11

compound (blend)

a recipe which defines types of polymer, additives and constituents at specified dosage levels

2.12

production batch

a clearly identifiable collection of units, manufactured consecutively or continuously under the same conditions, using material or compound conforming to the same specification

2.13

lot

a clearly identifiable sub-division of a batch for inspection purposes

2.14

sample

one or more units, or a specified quantity, drawn from a batch or lot, selected at random for inspection, e.g. in a laboratory

NOTE The number of units or the specified amount is the sample size.

2.15

specimen

a single sample of a product, to be prepared for testing

2.16

portion

a specified quantity, taken from a sample of particular material, a powder or a liquid, necessary to obtain a single test measurement

2.17

test piece

the specimen or portion which is conditioned, treated or otherwise prepared to be tested to obtain a single test result

2.18

acceptable quality level (AQL)

when a continuous series of lots or batches is considered, the quality level which for the purpose of sampling inspection is the limit of a satisfactory process average (see ISO 2859-1 and ISO 3951)

NOTE The designation of an AQL does not imply that a manufacturer has the right knowingly to supply any nonconforming unit of product.

2.19

inspection level

the relationship between the lot or batch size and the sample size (see ISO 2859-1)

Bibliography

- [1] ISO 2859-1:1999, *Sampling procedures for inspection by attributes — Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection.*
- [2] ISO 3951:1989, *Sampling procedures and charts for inspection by variables for percent nonconforming.*

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